

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 1, 2 and 4-14 are in the case.

I. THE ANTICIPATION REJECTION

Claims 1, 2 and 4-14 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by EP 047077 or USP 4,758,654.

As claimed, the process of the invention is for the separation of volatile material from particulate polymer. The process comprises feeding the particulate polymer which earlier has been substantially freed from unreacted monomer using an inert gas, to a purge vessel, causing the particulate polymer to move through the vessel in substantially plug-flow mode, heating the particulate polymer in the purge vessel to a temperature greater than 30°C but insufficiently high to cause the polymer particles to become agglomerated, and/or maintaining the polymer at a temperature in this range in the purge vessel, feeding gas to the purge vessel to remove volatile material therefrom, and removing the particulate polymer from the purge vessel. Substantially all of the heating of the polymer particles which occurs in the purge vessel is accomplished by preheating the gas fed into the purge vessel. In addition, at least a portion of the gas fed to the purge vessel enters the vessel at one or more points located closer to the top of the vessel than to the bottom.

An important feature of the claimed process is that the particulate polymer which is fed to the purge vessel has been substantially freed from unreacted monomer in an earlier separation step using an inert gas. In addition, substantially all of the heating of

the polymer particles is achieved using preheated gas, at least some of which enters the purge vessel nearer the top than the bottom.

EP 47077 is mentioned on page 2 of the application. However, the presently claimed invention is limited to treating "particulate polymer which has been substantially freed from unreacted monomer in an earlier separation step". Step (a) of claim 1 has been amended to further clarify this. In the description on page 2 of the application, it is stated that the invention concerns "particulate polymeric materials..., which have previously been subjected to at least one process for separation of the unreacted monomer, for example, by processes such as those described in GB-A-1272778 and EP-A-0047077." Thus, the claimed invention is intended to cover a separate process carried out in addition to one such as that of EP 47077.

In addition, EP 47077 contains no disclosure that "substantially all of the heating of the particles which occurs in the purge vessel is accomplished by preheating the gas fed into the purge vessel", as required by the presently claimed process. There is also no disclosure in EP 47077 of feeding at least a portion of the gas into the purge vessel at one or more points located closer to the top of the vessel than to the bottom. Finally, there is no disclosure in EP 47077 that the treated resin has been substantially freed from unreacted monomer in an earlier separation step. The presently claimed invention is clearly not anticipated by EP 47077.

Referring to US 4,758,654 ('654), the three distinctions over the claimed invention noted above with respect to EP 47077 are also applicable with respect to '654. There is no disclosure in '654 that the treated resin has been substantially freed from unreacted monomer in an earlier separation step using inert gas, no disclosure that

substantially all of the heating of the particles which occurs in the purge vessel is accomplished by preheating the gas fed into the purge vessel, and no disclosure of feeding at least a portion of the gas into the purge vessel at one or more points located closer to the top of the vessel than to the bottom. Even if the wider diameter portion of the purge vessel could be considered as an earlier separation step (it is believed that is not the case), '654 still does not disclose the claimed features. The claimed invention is clearly not anticipated by '654.

US 5,955,569 ('569) is concerned with a completely different process. Even if the passage of low dew-point gas results in the removal of volatile materials, there is no disclosure in '569 that the treated resin has been substantially freed from unreacted monomer in an earlier separation step using inert gas, and no disclosure of feeding at least a portion of the gas into the purge vessel at one or more points located closer to the top of the vessel than to the bottom. The claimed invention is clearly not anticipated by '569.

Withdrawal of the anticipation rejection is in order. Such action is respectfully requested.

II. THE OBVIOUSNESS REJECTION

Claims 1, 2, and 4-14 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over EP 047077 or USP 4,758,654 or USP 5,955,569. The rejection is respectfully traversed.

The Action asserts that any differences from the prior art "appear to be conventional", and then states that the only difference is the vessel temperature range

and total gas flow. This is not correct, as is clear from the above discussion of distinctions of the claimed invention over the cited references.

In addition, there are notable advantages associated with the claimed process which further emphasize the non-obviousness of the claimed invention. For example, the requirement for the previous separation step to remove unreacted monomer from the particulate polymer using an inert gas means that any gas, including air, can be used in the process of the invention without danger. The benefit of adding some of the hot gas higher up the vessel is explained in the description on page 8 lines 3 onwards. Thus, this allows a lower pressure to be used, with only a low velocity required for the remaining gas introduced at the bottom of the vessel, as the polymer is already heated, thereby resulting in greater efficiency. These features or any associated advantage(s) are not suggested by any of the cited prior art.

In light of the above, it is clear that one of ordinary skill, at the filing date of the present case, would not have contemplated considering '569 because '569 is concerned with an entirely different objective, namely continuing polymerisation, not removal of volatile materials. With regard to the other two cited references, as previously mentioned, the claimed invention differs from those two disclosures in three respects, and there is no suggestion in either document that these missing steps should be added. The person of ordinary skill would have had no motivation to make any such modifications to those disclosures.

It is clear from the above that the cited references, taken singly or in combination, do not render the presently claimed invention unpatentable. Withdrawal of the obviousness rejection is respectfully requested.

III. CLAIM AMENDMENTS

Step (a) of claim 1 has been amended to further clarify the feature that the particulate polymer which is fed to the purge vessel has been substantially freed from unreacted monomer in an earlier separation step using inert gas. No new matter is entered.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. **14-1140**.

Favorable action is awaited.

Respectfully submitted,

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